



**Congressional Research Service  
The Library of Congress**

Washington, D.C. 20540

October 18, 1985

**TO : House Committee on Post Office and Civil Service  
Attention: Tom DeYulia**

**FROM : Dennis Snook  
Team Leader, Civil Service Retirement Team  
Education and Public Welfare Division**

**SUBJECT : Cost and Benefit Projections for a Retirement Plan for Federal  
Employees Covered by Social Security**

You have asked us to project the costs and benefits of a design for a retirement system for Federal workers covered by social security, using the models created by the Congressional Research Service (CRS) for the purpose of estimating such data. The design was developed by your committee. Certain details necessary for accommodating the design to the CRS model were specified by Edwin Husted of Hay/Huggins Inc., under terms of their contract to the committee.

The attached tables are our response to your request. The data for these tables were developed by Michael O'Grady and Tom Gabe, with assistance from Michael Burke, all of the Civil Service Retirement Team.

We hope that this information is of use to the committee. We are also preparing a complete report of the proposed system's provisions, costs, and benefit distributions for the committee's use during its upcoming deliberations. In the meantime, if there is anything else we can do to assist you, please do not hesitate to call us.

**Attachments (2)**



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### COSTS

The cost projections represent "entry-age normal costs," a cost presentation that compares the career salaries and lifetime benefits of a statistically representative group of entering employees. The approach can be generally understood as the percentage of every paycheck that should be invested, over the total career of each employee in a group of new entrants, to fully pay for all benefits received by that group, including all eligible survivors. Normal cost is formally defined as the present value of future benefits divided by the present value of future compensation. These values are expressed as a percentage of payroll, and provide a consistent measure of relative pension costs over time.

CRS is not providing estimates of long-term tax revenue effects of the tax advantages of any part of the system. Measuring those potential advantages requires the incorporation of easily challenged assumptions; however, in theory the ultimate impact of the tax advantage will be smaller than that of the existing Civil Service Retirement System (CSRS) because the proposed plan costs less and thus defers less in potentially taxable compensation. Any estimates of short-term revenue losses or gains will be done by the Congressional Budget Office.

CRS-2

TABLE A-1. Comparison of Entry Age Normal Cost Estimates  
of Current CSRS to House Committee Plan a/

	Current CSRS (baseline)			House committee plan		
	Employer share	Employee share (average)	Total	Employer share	Employee share (average)	Total
Defined benefit plan.....	25.0%	7.0%	32.0%	18.2%	0.9%	19.1%
Social security <u>b/</u> ...	---	---	---	5.9	5.9	11.8
Capital accumulation plan (voluntary) <u>c/</u>	---	---	---	1.4	2.8	4.2
Full cost <u>d/</u> .....	25.0%	7.0%	32.0%	25.5%	9.6%	35.1%

a/ All cost figures are rounded to the nearest tenth of a percent. Administrative costs and benefits to special groups are excluded. Under the current CSRS these costs are estimated to be 0.1 and 0.3 percent of pay, respectively.

b/ Social security cost is the percentage of total Federal payroll taxable for social security (OASDI).

c/ For employees, cost of the capital accumulation plan is shown as the average cost. Average cost is determined by dividing the projected sum of all contributions (up to the specified matching limit of six percent for each employee) by the number of employees, assuming 48 percent rate of full participation. The cost to the Government is the employee cost times the matching rate.

d/ Average full cost includes projected average employee contribution and employer match to the capital accumulation plan.

## CRS-3

TABLE A-2. Entry Age Normal Cost of House Committee  
Plan by Benefit Normal Cost a/  
(% of total Federal pay)

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Defined Benefit Component:

Annuities to employees:		
Optional retirement.....	13.3%	
Involuntary retirement.....	1.3	
Disability retirement.....	1.4	
Deferred retirement.....	<u>0.6</u>	
Subtotal: Retirement.....	16.6%	
Annuities to survivors of:		
Age retirees.....	1.5%	
Disability retirees.....	0.2	
Active employees.....	0.6	
To children.....	<u>--</u>	
Subtotal: Survivors.....	2.3%	
Refunds.....	0.1	
Total: Defined benefits.....	19.1%	<u>a/</u>
Total: Average capital accumulation.....	4.2	<u>b/</u>
Total: Social security.....	11.8	<u>c/</u>
Total: All benefits.....	<u>35.1%</u>	
Less employee contributions:		
Defined benefit.....	0.9%	
Capital accumulation.....	2.8	<u>b/</u>
Social security.....	<u>5.9</u>	<u>d/</u>
Total: Employer cost.....	25.5%	

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a/ Detail may not sum to totals due to rounding. Administrative costs and benefits to special groups are excluded.

b/ Based upon net employer contributions matching average contributed by all workers (including nonparticipants).

c/ Approximately 0.4 percent of payroll of the social security cost is not distributed to Federal workers but flows to relatively lower-income social security participants outside the Federal Government.

d/ Social security tax as a percent of total payroll.

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### REPLACEMENT RATES

The replacement rates are the projected percentages of gross salaries received in the year before retirement that are replaced by gross benefits in retirement. These benefits and wages have been adjusted to 1985 levels. Workers are shown retiring in the year 2030 after all increases in the social security retirement age for full benefits have phased in. By 2027, that age for full benefits will be 67, and benefits received before that age will be reduced, with a maximum of 30 percent the reduction applied to benefits received at age 62, the earliest age of entitlement for old-age retirement under the program. Social security benefits shown here are prorated to reflect the proportion of social security benefits earned in Federal employment.

Capital accumulation plan (CAP) amounts are fully indexed so that real values over time are shown. The tables show replacement rates for individuals participating fully in the respective CAPS and for those participating not at all. Maximum annuities imply full participation up to the matching limit throughout the work career; conversely, the "without CAP" line represents workers never participating. Experience from the private sector suggests that most workers would not exhibit either of these polar characteristics but would vary their participation in response to changing personal or broader economic circumstances.

CRS-2

**TABLE B-1. Gross Percentage of Preretirement Salary Replaced by  
Postretirement Benefits for Workers Retiring under  
Current CSRS in the Year 2030**

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(Final salaries have been adjusted to 1985 dollars)	\$15,000	\$30,000	\$45,000	\$60,000	\$75,000
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<u>Gross Replacement Rates</u>					
10 years of service	15%	15%	15%	15%	15%
20 years of service	34	34	34	34	34
30 years of service	53	53	53	53	53
35 years of service	63	63	63	63	63
40 years of service	72	72	72	72	72
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CRS-2

**TABLE B-1. Gross Percentage of Preretirement Salary Replaced by  
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10 years of service	15%	15%	15%	15%	15%
20 years of service	34	34	34	34	34
30 years of service	53	53	53	53	53
35 years of service	63	63	63	63	63
40 years of service	72	72	72	72	72
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CRS-3

**TABLE B-2. Gross Percentage of Preretirement Salary Replaced by  
Postretirement Benefits for Workers Retiring  
in the Year 2030**

(Final salaries have been  
adjusted to 1985 dollars)    \$15,000    \$30,000    \$45,000    \$60,000    \$75,000

Retirement at Age 55 with 30 Years of Service

At retirement:

Total rate	64%	58%	54%	51%	49%
(without CAP)	(50%)	(44%)	(40%)	(37%)	(36%)
Pension	28	28	28	28	28
Pre-62 Supplement	22	16	12	9	8
OASDI	0	0	0	0	0
CAP	14	14	14	14	14

Total rate at age 62	64%	59%	55%	52%	50%
(without CAP)	(50%)	(45%)	(41%)	(38%)	(36%)
Pension	28	28	28	28	28
OASDI	22	17	13	10	8
CAP	14	14	14	14	14

Total rate at age 80	64%	59%	55%	52%	50%
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Retirement at Age 62 with 10 Years of Service

At retirement:

Total rate	21%	20%	19%	18%	18%
(without CAP)	(15%)	(14%)	(13%)	(12%)	(12%)
Pension	9	9	9	9	9
OASDI	6	5	4	3	3
CAP	6	6	6	6	6

NOTE: Accrual rate of one percent of pay per year of service times the highest three years of salary. Pre-62 supplements are estimates of future social security benefits and may differ from projections of actual social security. CAPs are indexed to show actual value over time. Totals may not add due to rounding.



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**TABLE B-3. Gross Percentage of Preretirement Salary  
Replaced by Postretirement Benefits for Workers  
Retiring in the Year 2030**

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(Final Salaries have been adjusted to 1985 dollars)	\$15,000	\$30,000	\$45,000	\$60,000	\$75,000
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**Retirement at Age 62 with 20 Years of Service**

<b>At retirement:</b>					
Total rate	44%	41%	39%	37%	36%
(without CAP)	(33%)	(30%)	(27%)	(26%)	(24%)
Pension	19	19	19	19	19
OASDI	14	11	8	7	5
CAP	11	11	11	11	11

**Retirement at Age 62 with 30 Years of Service**

<b>At retirement:</b>					
Total rate	68%	63%	59%	56%	54%
(without CAP)	(51%)	(46%)	(41%)	(38%)	(36%)
Pension	28	28	28	28	28
OASDI	23	18	13	10	8
CAP	17	17	17	17	17

**Retirement at Age 62 with 35 Years of Service**

<b>At retirement:</b>					
Total rate	80%	74%	69%	65%	63%
(without CAP)	(60%)	(54%)	(49%)	(45%)	(43%)
Pension	33	33	33	33	33
OASDI	27	21	16	12	10
CAP	20	20	20	20	20

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**NOTE:** Accrual rate of one per-cent of pay per year of service times the highest three years of salary. Age-62 supplements are estimates of future social security benefits and may differ from projections of actual social security. CAPs are indexed to show actual value over time. Totals may not add due to rounding.

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TABLE B-4. Gross Percentage of Preretirement Salary Replaced by  
Postretirement Benefits for Workers Retiring  
in the Year 2030

(Final salaries have been  
adjusted to 1985 dollars)    \$15,000    \$30,000    \$45,000    \$60,000    \$75,000

Retirement at Age 62 with 40 Years of Service

At retirement:					
Total rate	88%	82%	77%	73%	70%
(without CAP)	(66%)	(59%)	(54%)	(50%)	(48%)
Pension	38	38	38	38	38
OASDI	28	21	16	12	10
CAP	23	23	23	23	23

Retirement at Age 67 with 30 Years of Service

At retirement:					
Total rate	80%	73%	68%	63%	61%
(without CAP)	(59%)	(52%)	(46%)	(42%)	(39%)
Pension	28	28	28	28	28
OASDI	31	24	18	14	11
CAP	21	21	21	21	21

Retirement at Age 67 with 40 Years of Service

At retirement:					
Total rate	104%	94%	87%	82%	79%
(without CAP)	(76%)	(67%)	(60%)	(55%)	(51%)
Pension	38	38	38	38	38
OASDI	38	29	22	17	13
CAP	28	28	28	28	28

NOTE: Accrual rate of one percent of pay per year of service times the highest three years of salary. Pre-62 supplements are estimates of future social security benefits and may differ from projections of actual social security. CAPS are indexed to show actual value over time. Totals may not add due to rounding.